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EXPERT REPORT OF PATRICIA GURIN

Gratz, et al. v. Bollinger, et al., No. 97-75321 (E.D. Mich.)

Grutter, et al. v. Bollinger, et al., No. 97-75928 (E.D. Mich.)

STATEMENT OF QUALIFICATIONS

I am a Professor of Psychology and Women's Studies at the University of Michigan, with thirty-four years of experience in social psychological research and teaching on the general topics of intergroup relations. I have published eight books and monographs, as well as numerous articles that have examined how group membership and identification affect the personal and social outcomes of various groups in American society, among them racial and ethnic groups, gender groups, age groups, and social class groups. Much of my work has utilized national surveys conducted by the Institute for Social Research, where I have been a Faculty Associate since 1968. Since 1990-91, I have conducted research on student experience with

diversity at the University of Michigan. I am a member of the Russell Sage Foundation's Committee on Race, Culture, and Contact, and have contributed to numerous conferences and symposia on this general topic. I have taught both undergraduate and graduate courses in social psychology, as well as courses in the role of race and ethnicity in American society. I served as the chairperson of the Department of Psychology, one of the top-ranked psychology departments in the country, from 1991-98. Since September 1998, I have been Interim Dean of the College of Literature, Sciences, and the Arts. A complete *curriculum vitae*, including a list of publications, is attached hereto as Appendix A.

INFORMATION CONSIDERED IN FORMING OPINIONS

My research, participation in national forums, and broad reading in the social sciences have given me a theoretical and empirical grounding for examining the impact of diversity on students from all social backgrounds. My teaching has given me first-hand knowledge of the ways in which diversity contributes to the learning environment at the University of Michigan, and to preparation of our young people for participation in a pluralistic democracy. My administrative positions have given me valuable, daily understanding of the ways that diversity operates in our University and enhances the learning and experience with democracy that all students will need in the 21st Century.

I have considered a wide range of bibliographic materials, listed in Appendix B. I have analyzed data from the Michigan Student Study (hereafter referred to as MSS), the study of the Intergroup Relations, Conflict, and Community Program at the University of Michigan (hereafter referred to as IRGCC), and the 4-year and 9-year data on a large national sample of institutions and students from the Cooperative Institutional Research Program (hereafter referred to as CIRP). I worked with others at the University of Michigan in conducting these analyses.

OTHER EXPERT TESTIMONY: COMPENSATION

I have not testified as an expert at trial or by deposition within the preceding four

years. I am not being compensated for my work in connection with this matter.

SUMMARY AND CONCLUSIONS

A racially and ethnically diverse university student body has far-ranging and significant benefits for all students, non-minorities and minorities alike. Students learn better in a diverse educational environment, and they are better prepared to become active participants in our pluralistic, democratic society once they leave such a setting. In fact, patterns of racial segregation and separation historically rooted in our national life can be broken by diversity experiences in higher education. This Report describes the strong evidence supporting these conclusions derived from three parallel empirical analyses of university students, as well as from existing social science theory and research.

Students come to universities at a critical stage of their development, a time during which they define themselves in relation to others and experiment with different social roles before making permanent commitments to occupations, social groups, and intimate personal relationships. In addition, for many students college is the first sustained exposure to an environment other than their home communities. Higher education is especially influential when its social milieu is different from the community background from which the students come, and when it is diverse enough and complex enough to encourage intellectual experimentation. The University of Michigan, like similar institutions of higher education, recognizes this special opportunity and the corresponding obligation to take advantage of it. Diversity of all forms in the student body -- including racial diversity -- is crucially important in helping students become conscious learners and critical thinkers, and in preparing them for participation in a pluralistic, diverse society.

Students learn more and think in deeper, more complex ways in a diverse educational environment. Extensive research in social psychology demonstrates that active engagement in learning cannot be taken for granted. In fact, much "thought" is actually the automatic result of

previously learned routines; most people do not employ effortful and conscious modes of thought very often. For an educational institution, the challenge obviously is to find ways to engage the deeper, less automatic mode of thinking. Complex thinking occurs when people encounter a novel situation for which, by definition, they have no script, or when the environment demands more than their current scripts provide. Racial diversity in a college or university student body provides the very features that research has determined are central to producing the conscious mode of thought educators demand from their students. This is particularly true at the University of Michigan, because most of the University's students come to Ann Arbor from segregated backgrounds. For most students, then, Michigan's social diversity is new and unfamiliar, a source of multiple and different perspectives, and likely to produce contradictory expectations. Social diversity is especially likely to increase effortful, active thinking when institutions of higher education capitalize on these conditions in the classroom and provide a climate in which students from diverse backgrounds frequently interact with each other.

These conclusions are confirmed by one of the most broad and extensive series of empirical analyses conducted on college students in relation to diversity. I examined multi-institutional national data, the results of an extensive survey of students at the University of Michigan, and data drawn from a specific classroom program at the University of Michigan. It is clear from all three analyses that interaction with peers from diverse racial backgrounds, both in the classroom and informally, is positively associated with a host of what I call "learning outcomes." Students who experienced the most racial and ethnic diversity in classroom settings and in informal interactions with peers showed the greatest engagement in active thinking processes, growth in intellectual engagement and motivation, and growth in intellectual and academic skills.

The benefits of a racially diverse student body are also seen in a second major area. Education plays a foundational role in a democracy by equipping students for meaningful participation. Students educated in diverse settings are more motivated and better able to participate in an increasingly heterogeneous and complex democracy. They are better able to understand and consider multiple perspectives, deal with the conflicts that different perspectives sometimes create, and appreciate the common values and integrative forces that harness differences in pursuit of the common good. Students can best develop a capacity to understand the ideas and feelings of others in an environment characterized by the presence of diverse others, equality among peers, and discussion under rules of civil discourse. These factors are present on a campus with a racially diverse student body. Encountering students from different racial and ethnic groups enables students to get to know one another and to appreciate both similarities and differences.

The results of the three empirical analyses confirm the central role of higher education in helping students to become active citizens and participants in a pluralistic democracy. Education in a racially diverse setting is positively associated with a broad array of what I call "democracy outcomes." Students who experienced diversity in classroom settings and in informal interactions showed the most engagement during college in various forms of citizenship, and the most

engagement with people from different races and cultures. They were also the most likely to acknowledge that group differences are compatible with the interests of the broader community. These effects continued after the students left the university setting. Diversity experiences during college had impressive effects on the extent to which graduates in the national study were living racially and ethnically integrated lives in the post-college world. Students with the most diversity experiences during college had the most cross-racial interactions five years after leaving college. The University of Michigan is particularly aware that most of its students (like those at similar institutions) come from schools and neighborhoods that are largely segregated. The long-term pattern of racial separation noted by many social scientists can be broken by diversity experiences in higher education.

Taken together, the results of these original analyses are compelling. There is a consistent pattern of positive relationships between diversity in higher education and both learning and democracy outcomes. This pattern holds across racial and ethnic groups and across a broad range of outcomes. And the benefits of diversity are evident at the national level, after four years of college and five years after leaving college, and in the studies of Michigan students. This consistency is unusual in my experience as a social scientist. These analyses, which are supported by the research literature, provide strong evidence of the compelling benefits to our society of racial diversity in higher education.

OPINIONS TO BE EXPRESSED

THE MISSION OF HIGHER EDUCATION

Institutions of higher education have an obligation, first and foremost, to create the best possible educational environment for the young adults whose lives are likely to be significantly changed during their years on campus. Specific objectives may vary from one institution to another, but all efforts must be directed to ensuring an optimal educational environment for these young people who are at a

critical stage of development that will complete the foundation for how they will conduct their lives.

One goal embraced by most colleges and universities, and certainly by the University of Michigan, is to prepare young people for active participation in our democratic society, which is an increasingly diverse society. As stated by the

Association of American Colleges and Universities in 1995, higher education has

both a distinctive responsibility and a precedent setting challenge. Higher education is uniquely positioned, by its mission, values, and dedication to learning, to foster and nourish the habits of heart and mind that Americans need to make diversity work in daily life. We have the opportunity to help our campuses experience engagement across differences as a value and a public good. Our nation's campuses have become a highly visible stage on which the most fundamental questions about difference, equality, and community are being enacted. To this effort, filled with promise and fraught with difficulty, the academy brings indispensable resources: its commitments to the advancement of knowledge and its traditions of dialogue and deliberation across difference as keys to the increase of insight and understanding.

(AAC&U, 1995, p.xvi). Plainly, higher education is obliged both to advance knowledge and to educate those who will become active in the professions and in society. Racial and ethnic differences are relevant to both these goals.

THEORETICAL FOUNDATIONS FOR THE EFFECT OF DIVERSITY

For this litigation, I have conducted a unique series of analyses of existing data on diversity in higher education. This work consistently confirms that racial diversity and student involvement in activities related to diversity have a direct and strong effect on learning and the way students conduct themselves in

The Critical Importance of Higher Education

Because students in late adolescence and early adulthood are at a critical stage of development, diversity (racial, economic,

Corporate leaders have reinforced this mission by confirming that the business community is looking to colleges and universities to produce highly valued cognitive and social skills in the educated workforce: ability to work effectively in groups with colleagues of diverse backgrounds, openness to new ideas and perspectives, and empathy with other workers' perspectives (Bikson & Law, 1994). These are qualities that higher education institutions are best equipped to create and nurture, if they are diverse. Indeed, it is development of these qualities of democratic intelligence that educator Lee Knefelkamp (1998) claims is the primary mission of colleges and universities.

That colleges and universities have an obligation to choose carefully the kind of student body that will create the best learning environment for all their students is fundamental to achieving these goals. The vitality, stimulation, and educational potential of a college is, quite obviously, directly related to the makeup of its student body, and, as I will argue on the basis of abundant research findings, diversity is a critically important factor in creating the richly varied educational experience that helps students learn and prepares them for participation in a democracy that is characterized by diversity.

later life, including disrupting prevailing patterns of racial separation. A critical question is *why* diversity should affect student learning and development of skills necessary for living in a pluralistic democratic society. Before detailing the results of our empirical work, I develop a theoretical rationale below for each of these types of outcomes.

demographic, and cultural) is crucially important in enabling them to become conscious learners and critical thinkers, and in preparing them to become

active participants in a democratic society. Universities are ideal institutions to foster such development.

In essays written at the end of World War II, which profoundly affected our understanding of social development, psychologist Erik Erikson (1946, 1956) introduced the concept of *identity* and argued that late adolescence and early adulthood are the unique times when a sense of personal and social identity is formed. Identity involves two important elements: a persistent sameness within oneself, and a persistent sharing with others. Erikson theorized that identity develops best when young people are given a psycho-social moratorium -- a time and a place in which they can experiment with different social roles before making permanent commitments to an occupation, to intimate relationships, to social groups and communities, and to a philosophy of life. Ideally, the moratorium will involve confrontation with diversity and complexity, lest young people passively make commitments that follow their past, rather than being obliged to think and make decisions that fit their talents and feel authentic.

Our institutions of higher education are constituted precisely to take advantage of this developmental stage and to provide that ideal moratorium. Residential colleges and universities separate the late adolescent from his/her past. They allow young people to experiment with new ideas, new relationships, and new roles. They make peer influence a normative source of development. They sanction a time of exploration and possibility (at least four years and, for many, the graduate years as well) before young people make permanent adult commitments.

Not all institutions of higher education serve this developmental function equally well. According to Erikson's emphasis on the importance of discontinuity from the past environment, higher education will be especially influential when its social milieu is different from the home and community background, and when it is diverse enough and complex enough to encourage intellectual experimentation and recognition of

varied future possibilities. Going to college in one's home environment or replicating the home community's social life and expectations in a homogeneous college that is simply an extension of the home community impedes the personal struggle and consciousness of thought that Erikson argues are critical for identity development.

The classic study by sociologist Theodore Newcomb of Bennington College (1943) supports Erikson's belief that late adolescence is a time to determine one's relationship to the socio-political world and affirms the developmental impact of the college experience. This study demonstrated that political and social attitudes -- what Erikson would call the core of social identity -- are quite malleable in late adolescence and that change occurred especially for students to whom Bennington College presented ideas and attitudes that were discrepant from their home backgrounds. Peer influence was critical in the changes Newcomb documented. Subsequent follow-ups of these students, moreover, showed that the attitudes formed during the college experience were quite stable, even 25 years later (Newcomb, Koenig, Flacks, and Warwick, 1967) and 50 years later (Alwin, Cohen, and Newcomb, 1991).

Writing long before the controversies about diversity and affirmative action became politically important or academically studied, neither Erikson nor Newcomb was making an explicit case for social diversity. Nonetheless, their arguments about the significance of discontinuity and the power of a late adolescence/early adulthood moratorium provide a strong theoretical rationale for the importance of bringing students from varied backgrounds together to create a diverse and complex learning environment. Late adolescent and early adult experiences, when they are discontinuous enough from the home environment and complex enough to offer new ideas and possibilities, can be critical sources of development. Racial diversity, given the significance of the racial separation that persists in this country, increases the probability that higher education environments will provide such experiences. Encountering students from different

racial and ethnic groups enables students to get to know one another and to deepen their own thinking about themselves and about others.

Theories of cognitive growth also emphasize discontinuity and discrepancy. Many different cognitive-developmental theories agree that cognitive growth is instigated by incongruity or dissonance, termed disequilibrium by the well-known Swiss psychologist Piaget (1971;1975/1985). Drawing on these theories, developmental psychologist Diane Ruble (1994) offers a model that ties developmental change to *transitions*, such as going to college. Transitions are significant moments for development because they present new situations about which individuals have little knowledge and in which they will experience uncertainty. The early phase of a transition, what Ruble calls the phase of *construction*, is especially important. People have to seek information in order to make sense of the new situation. Under these conditions individuals likely will undergo cognitive growth (unless they are

able to retreat to a familiar world). Applied to the experience in higher education, Ruble's model gives special importance to the first year of college (or to the first year of graduate school), as this is the critical period of construction. In this period, classroom and social relationships that challenge rather than replicate the ideas and experiences students bring with them from their home environments are especially important in fostering cognitive growth.

In order to capitalize amply on such opportunities for cognitive growth, institutions of higher education must bring diverse students together, provide stimulating courses covering historical, cultural, and social bases of diversity and community, and must create opportunities and expectations for students to interact across racial and other divides. Otherwise, many students will retreat from the opportunities offered by a diverse campus to find settings within their institutions that are familiar and that replicate their home environments.

Learning Outcomes

Students learn more and think in deeper, more complex ways in a diverse educational environment. A curriculum that deals explicitly with social and cultural diversity, and a learning environment in which diverse students interact frequently with each other, naturally will affect the content of what is learned. Less obvious, however, is the notion that students' *mode of thought* is affected by features of the learning environment, and that diversity is a feature that produces deeper and more complex thinking. I refer generally to these mode-of-thought benefits of diversity as "learning outcomes."

It cannot be taken for granted that deep and complex thinking occurs as a matter of course among students in college classrooms and in the broader college environment. Research in social psychology in the past twenty years, in particular, has shown that active engagement in learning cannot be assumed. This research confirms that much

apparent thinking and thoughtful action are actually automatic or what psychologist Ellen Langer (1978) calls mindlessness. To some extent, mindlessness is the result of previous learning that has become so routine that thinking is unnecessary. Instead, these learned routines are guided by scripts or schemas that are activated and operate automatically. Some argue that mindlessness is necessary because there are simply too many stimuli in the world for us to pay attention to. It is more efficient for us to select only a few stimuli, or better still, to go on automatic pilot -- to be what some people call "cognitive misers."

Psychologist John Bargh (1997) reviews both historical and recent research evidence showing that automaticity in fact plays a pervasive role in all aspects of everyday life. He concludes that not only is automatic thinking evident in perceptual processes such as categorization and stereotyping, and in execution of perceptual and motor skills

(such as driving and typing), but it is also pervasive in evaluation, emotional reactions, determination of goals, and social behavior itself. Bargh uses the term "preconscious" to describe automatic thinking. Preconscious processes are mental servants that take over from conscious, effortful thinking. He and others (Nisbett and Wilson, 1977; Greenwald and Banaji, 1995) show, moreover, that even when people believe that they have been thinking about something or that an evaluation or action is guided by a thought-out point of view, they are often wrong. Instead, they are often guided by a script coming from past experience -- from some kind of automatic processing.

In one of the early studies indicating the pervasiveness of automatic thinking, Langer (1978) laid out many positive benefits that come when people can be encouraged to use active, effortful, conscious modes of thought rather than automatic thinking. All of these benefits foster better learning. Langer argued that conscious, effortful thinking helps people develop new ideas and new ways of processing information that may have been available to them but were simply not used very often. In several experimental studies, she showed that such thinking increases alertness and greater mental activity (surely something all college teachers strive for in classrooms).

Many terms are used to describe two basically different modes of thought: automatic v. nonautomatic; preconscious v. conscious; peripheral v. central; heuristic v. systematic; mindless v. minded; effortless v. effortful; implicit v. explicit. Whatever the term, higher education needs to find ways to produce the deeper, less automatic mode of thinking.

The social science literature demonstrates that certain conditions encourage effortful, minded, and conscious modes of thought. Langer contends that people will engage in minded thought when they encounter a novel situation for which, by definition, they have no script; or, when the environment demands more than their current scripts provide, such as an encounter with something that is quite

discrepant from their past experience. These conditions are very similar to what sociologist Coser (1975) calls complex social structures: situations where we encounter many rather than few people, when some of those people are unfamiliar to us, when some of them challenge us to think or act in new ways, when people and relationships change and thus produce some unpredictability, and, especially, when people we encounter hold different kinds of expectations of us. Coser shows that people who function in complex social structures develop a clearer and stronger sense of individuality and a deeper understanding of the social world as well.

These features of the environment that promote deep thinking are compatible with cognitive-developmental theories positing that cognitive growth is fostered by incongruity or dissonance (Piaget's disequilibrium). To learn or grow cognitively, we need to recognize cognitive conflicts or contradictions, situations that psychologist Diane Ruble (1994) argues then lead to a state of uncertainty, instability, and possibly anxiety (see also Acredolo & O'Connor, 1991; Doise & Palmonaari, 1984; Berlyne, 1970). "Such a state may occur for a number of reasons," Ruble says. "It may be generated either internally via the recognition of incompatible cognitions or externally during social interaction. The latter is particularly relevant to many types of life transitions, because such transitions are likely to alter the probability of encountering people whose viewpoints differ from one's own" (p171).

A university composed of racially and ethnically diverse students (what I refer to as "structural diversity"), a curriculum that deals explicitly with social and cultural diversity, and interaction with diverse peers produce a learning environment that fosters conscious, effortful, deep thinking. For most of our students, the social diversity of the University of Michigan creates the discrepancy, discontinuity, and disequilibrium that are so important for producing the mode of thought educators must demand from their students. Vast numbers of white students (about 92 percent) and

about half (52 percent) of the African American students come to the University of Michigan from segregated backgrounds. As groups, only our Asian American and Latino/a students arrive here already having encountered considerable diversity in their pre-college experience (see Appendix E). Thus, for most of our students, Michigan's social diversity is

- ◆ new and unfamiliar;
- ◆ discrepant from their pre-college social experiences;
- ◆ a source of multiple and different perspectives;
- ◆ and likely to produce contradictory expectations.

These are the very features of an environment that research has determined will foster active, conscious, effortful thinking -- the kind of thinking needed for learning in institutions of higher education.

The work of higher education researcher Patricia King and colleagues (King and Shuford, 1996; King and Kitchener, 1994) supports this conclusion. They contend that college students (and adults for some time after college) are developing from a pre-reflective stage of judgment, when they depend on direct, personal observation or the word of an authority figure, toward more substantiated and qualified claims, and then to an even more advanced stage, when thinking is fully reflective. At the reflective level, students work from the assumption that knowledge is not given but constructed and that they must construct it. In doing this, they need to consider the context from which knowledge claims are made. They must think deeply and effortfully to take into account multiple points of view, evaluate evidentiary claims, and draw conclusions based on conceptual soundness,

Democracy Outcomes

Education plays a foundational role in a democracy by equipping students for meaningful participation. Students educated in diverse settings are better able

coherence, degree of fit with the data, and meaningfulness. King further argues that social diversity -- having multiple voices in the classroom -- and the multicultural teaching strategy of presenting multiple perspectives from the points of view of race, class, and gender foster fully reflective thinking. Teaching students how to think about complex issues from different perspectives is a primary goal of higher education.

Although the scholars advancing these arguments about the importance of unfamiliarity, discrepancy/discontinuity, multiplicity/diversity, and contradictoriness of expectations generally have not measured the explicit effect of racial diversity, some empirical research on the diversity of small working groups directly supports our claims. It has been shown that members of heterogeneous working groups offer more creative solutions to problems than those in homogeneous groups (Cox, 1993; McLeod, Lobel, & Cox, 1996). They show greater potential for critical thinking, perhaps because heterogeneity of group members eliminates a problem termed "group think" (Janis, 1982), an organizational situation in which group members mindlessly conform.

The empirical analyses presented later in this Report directly test the theoretical arguments I am advancing for the impact of racial diversity on student learning. All of these analyses confirm that racial and ethnic diversity is especially likely to increase effortful, active, engaged thinking when universities set up the conditions that capitalize on these positive environmental features, namely when they offer courses that deal explicitly with racial and ethnic diversity and when they provide a climate in which students from diverse backgrounds frequently interact with each other.

to participate in a pluralistic democracy. Democracy is predicated on an educated citizenry. Students educated in diverse settings are better able to participate in our democratic process. In this

Report, I refer generally to these types of benefits of diversity as "democracy outcomes."

In Fear of Diversity (1992), political scientist Arlene Saxonhouse details the debates that took place in ancient Greece about the impact of diversity on capacity for democracy. Plato, Saxonhouse says, envisioned a city-state in which unity and harmony would be based on the shared characteristics of a homogeneous citizenry (though even he warned against striving for too much unity). However, it was Aristotle who was able to overcome the fear and welcome the diverse. "Aristotle embraces diversity as the others had not The typologies that fill almost every page of Aristotle's Politics show him uniting and separating, finding underlying unity and significant differences" (Saxonhouse, p. 235). Aristotle advanced a political theory in which unity could be achieved through differences, and contended that democracy based on such a unity would be more likely to thrive than one based on homogeneity. What makes democracy work, according to Aristotle, is equality among citizens who are peers (admittedly only free men at the time, not women and not slaves) but who hold diverse perspectives, and whose relationships are governed by freedom and rules of civil discourse. It is discourse over conflict, not unanimity, that helps democracy thrive (Pitkin & Shumer, 1982).

The theory of democracy that has prevailed in the United States is more akin to Plato's than to Aristotle's conception. It is the Republican tradition, represented by Rousseau on through Jefferson, in which democracy and citizenship are believed to require social homogeneity, simplicity, and an overarching common identity, rather than social diversity, complexity, and multiple identities. The model is the town meeting where people from similar backgrounds, familiar with each other, and interdependent through similarity and familiarity, come together to debate the common good.

The increasingly heterogeneous population in the United States challenges this conception of democracy. Little wonder that we are now facing cultural, disciplinary, and political debates over the

extent to which our American democracy can survive with so much heterogeneity and so many group-based claims in the polity. Yet, it is clear that ethnic hierarchy or one-way assimilation, both of which call for muting of differences and cultural identities, is much less likely to prevail in the future than in the past (Fredrickson, in press). Our students, as leaders of the future, need to learn how to accept diversity, negotiate conflicts, and form coalitions with individuals and groups if they are to become prepared to be leaders in an increasingly heterogeneous and complex society.

Piaget also emphasizes diversity, plurality, equality, and freedom. In his theory of intellectual and moral development, Piaget argues that children and adolescents can best develop a capacity to understand the ideas and feelings of others -- what he calls "perspective taking" -- and to move to a more advanced stage of moral reasoning when they interact with diverse peers who are also equals. Both diversity and equality in the relationship are necessary for intellectual and moral development. In a homogeneous environment, in which young people are not forced to confront the relativity or limitations of their points of view, they are likely to conform to a single perspective defined by an authority. Without being obliged to discuss and argue with others on an equal basis, they are not likely to do the cognitive and emotional work that is required to understand how other people think and feel. Piaget contends that children do not grow in perspective-taking skills in their relationships with parents, because they are apt to accept rather than debate what parents say. With peers, they debate and actively confront multiple points of view. They also have to deal with the strong emotions that such controversy engenders. It is these cognitive and emotional processes that promote the advanced morality that is so needed to make a pluralistic democracy work.

Several dimensions of development of the capacity for democracy can be discerned from these theories. The conditions deemed important include:

- ◆ the presence of diverse others;

- ◆ equality among peers;
- ◆ and discussion under rules of civil discourse.

These conditions are thought to produce perspective taking, mutuality and reciprocity, acceptance of conflict as a normal part of life, acceptance of difference and capacity to perceive commonality

amidst the differences, interest in the wider social world, and citizen participation. Using these dimensions, I have empirically tested effects of diversity in a higher education setting on the capacity for democracy. All of these analyses confirm a positive relationship between racial diversity experiences during college and the capacity for participation in a pluralistic democracy.

CONCEPTUAL MODEL OF THE IMPACT OF DIVERSITY

The impact of diversity operates through what this Report calls structural diversity, classroom diversity, and informal interactional diversity. To demonstrate its effects, I analyzed national multi-institutional CIRP data, data from the Michigan Student Study, and classroom data from Michigan's Intergroup Relations, Conflict, and Community Program.

The structural diversity of an institution refers primarily to the racial and ethnic composition of the student body. Increasing the numerical representation of various racial/ethnic and gender groups is the first essential step in the process of creating a diverse learning environment (Hurtado, Milem, Clayton-Pederson & Allen, 1998). Structural diversity alone will present discontinuity for the vast proportion of college students who come from racially segregated pre-college environments -- students of color as well as white students. Historically, dramatic changes in higher education followed the enrollment of women and racially/ethnically diverse students. The increases in diverse student enrollments that have occurred as a result of affirmative action and other factors have resulted in pressures for institutional transformation of the academic and social life at colleges across the country.

One dimension of this institutional transformation is classroom diversity, or the incorporation of knowledge about diverse groups into the curriculum that colleges and universities present to this more diverse array of students. This

has largely been the result of the recruitment of more faculty who include content and research on different groups in college coursework (Chang, 1996). Other examples of curricular change are the development of ethnic studies and women's studies programs, co-curricular academic support programs, and multicultural programming (Trevino, 1992; Munoz, 1989; Peterson et al, 1978). The positive learning and democracy outcomes empirically linked to these rich curricular offerings and multicultural occur in the context of structural diversity.

Equally important is informal interactional diversity, the opportunity to interact with students from diverse backgrounds in the broad, campus environment. College often provides the first opportunity for students to get to know others from varied racial and ethnic backgrounds. It is interaction with a student's peer group that becomes one of the most influential aspects of the college experience (Astin, 1993), and most college alumni agree that their affiliations with peers made their education memorable.

The impact of structural diversity depends greatly on classroom and informal interactional diversity. Structural diversity is essential but, by itself, usually not sufficient to produce substantial benefits; in addition to being together on the same campus, students from diverse backgrounds must also learn about each other in the courses that they take and in informal interaction outside of the classroom. For new learning to occur, institutions of higher education have to make appropriate use of structural diversity. They have to make college

campuses authentic public places, where students from different backgrounds can take part in conversations and share experiences that help them develop an understanding of the perspectives of other people. Formal classroom activities and interaction with diverse peers in the informal college environment must prompt students to think in pluralistic and complex ways, and to encourage them to become committed to life-long civic action. In order to capitalize amply on such opportunities for cognitive growth, institutions of higher education must bring diverse students together, provide stimulating courses covering historical, cultural, and social bases of diversity and community, and create opportunities and expectations for students to interact across racial and other divides. Otherwise, many students will retreat from the opportunities offered by a diverse campus to find settings within their institutions that are familiar and that replicate their home environments.

This conclusion from recent research literature on diversity in higher education conforms to a richly supported conclusion from many years of social psychological research on social contact. Contact between groups is most likely to have positive effects when contact takes place under particular intergroup conditions: equal group status within the situation where the contact takes place, common goals, intergroup cooperation, support of authorities for group equality, and opportunities for group members to know each other as individuals (Allport, 1954; Amir, 1976; Cook, 1984; Pettigrew, 1991). Not surprisingly, we have now learned that the greatest positive effects of diversity in higher education occur in institutions that have created opportunities for students to have these kinds of contact. The University of Michigan is one of those institutions that has created opportunities in classes and in the informal student environment for structural diversity to affect student learning and preparation for participation in a democratic society.

THE STUDIES: METHOD AND MEASURES

Study Methods

To determine how learning and democratic sentiments are related to structural, informal interactional, and classroom diversity, as our theoretical review suggests that they should be, I reviewed the literature (see Appendix B) and undertook three new sets of analyses developed specifically for this litigation. These systematic analyses were designed to provide scientific insight into the processes by which students are changed by their college experiences. I use research data specifically collected from students at the University of Michigan, as well as data collected from students attending colleges and universities across the country.

Before reviewing the conclusions based on this research evidence, it is important to convey a general sense of the approach that was used in these investigations (Appendix C provides a complete technical description of the analyses). The approach was based on standard, generally accepted methods for analyzing data that were collected by ongoing programs of research on college students. As developed through decades of research on college students, the approach has two characteristics, each of which is an essential aspect of the quality and soundness of the results:

Data over time. Growth and development among college students obviously takes place over time. As a result, the most effective research approaches use data collected from the same individuals at more than one time point. This so-called "longitudinal" approach, in which researchers collect information

from students on two or more occasions, allows for a systematic analysis of how students grow and develop by comparing data collected from individuals at one time to data collected from these same individuals at later points in time. Moreover, by comparing patterns of growth with the educational conditions and activities that students experience between the collection of data, it becomes possible to understand how different experiences promote growth and development among college students.

Taking choices and consequences into account. *In studying students over time it becomes apparent that individuals do not make choices randomly, nor do they leave their previous attitudes and experiences at the front doors when they enter their colleges. As a result, the choices that students make (and the consequences that these choices have) need to be taken into account in order to make sound judgments about how campus experiences affect students.*

For example, we are likely to find that students majoring in mathematics and science have growing interest in science, as compared to those majoring in the humanities. While this may seem to prove that growth in scientific interest is caused by majoring in science, it is important to recognize that those who were drawn into science majors are likely to have been more interested in science when they entered college. In order to make a fair judgment about whether majoring in science or the humanities is differentially related to growth in science interest, we need first to take into account the initial differences in interest between these two groups.

Similarly, to study the growth and development of learning and democracy outcomes as related to diversity experiences, it is important to take into account (or control for) differences across individuals in terms of their initial position on learning and democracy outcomes, as well as their likelihood to be drawn to more intensive diversity-related experiences. I accomplished this through either statistical approaches or through matching students who did or did not have a diversity experience, as in the study of the Intergroup Relations, Conflict, and Community Program.

The results I present here provide a conservative estimate of diversity's effects, in that the analyses consistently allow other variables in the analysis (i.e., characteristics of colleges and entering characteristics of students) a greater opportunity to account for, and possibly explain away, the influence of campus diversity on college students. Whereas in baseball a tie always goes to the runner, in these analyses a "tie" always goes against the diversity explanation. Despite the fact that this approach tends to diminish the likelihood of demonstrating effects related to diversity, it is

important to take these relationships into account in order unambiguously to demonstrate change related to diversity. In sum, this approach ensures that where I report significant effects related to diversity, they are truly diversity effects, as opposed to being a consequence of the characteristics, choices, and preferences that students bring with them to college.

The data bases used for the analyses span a broad range of approaches typically used to study college student development issues. For example, I analyzed data provided by the Cooperative

Institutional Research Program (CIRP) and the UCLA Higher Education Research Institute that were collected from 9,316 students attending nearly two hundred colleges and universities. In addition to the national perspective provided by the CIRP data, I also analyzed data from the Michigan Student Study (MSS) provided by 1,321 students on the educational dynamics of diversity on the Michigan campus. The data came from a series of

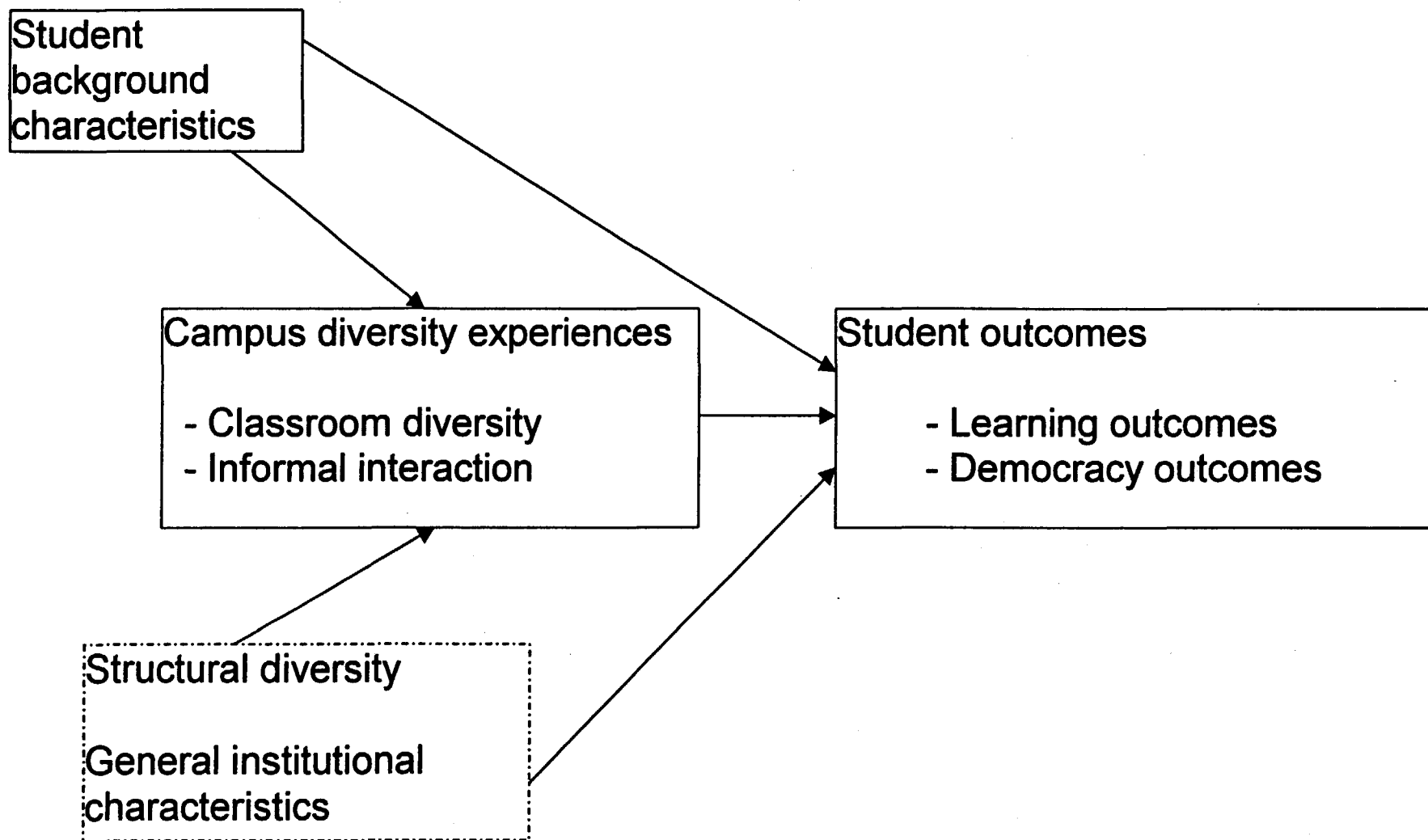
extensive questionnaires given to all undergraduate students of color and a large, representative sample of white students at the time they entered the University of Michigan in 1990, and again at the end of their first, second, and senior years. A more specific study, focused on the Intergroup Relations, Community, and Conflict (IGRCC) Program, demonstrates these dynamics related to a specific diversity initiative at the University of Michigan.

Primary Variables in the Studies

Figure 1 graphically shows the elements of the research approach used in the three sets of analyses developed for this litigation. Variables identified in the box in the upper left corner of Figure 1 (student background characteristics) represent control variables across the studies, and while these are not

of primary substantive interest, they are important considerations in the analyses because they represent the previous choices, preferences, and experiences of students that, unless taken into account, could have influenced the outcomes and caused me to overestimate the effects of diversity.

Figure 1: General analytical approach used for the three studies



Note: The structural diversity and general institutional characteristics measures shown in the lower left of this figure are only relevant for the CIRP data analyses, as CIRP is a multi-institutional database. In contrast, the MSS and IGRCC databases are from a single institution (that is, the University of Michigan). As a result, institutional characteristics do not vary within these latter studies.

The primary variables of interest are those related to campus diversity in its many forms (represented in the center of Figure 1). I was interested in understanding how these variables affect (or predict) different student outcomes. Therefore, each analysis contains a variable representing a student's level of contact with classroom diversity and a variable representing a student's informal interactional diversity. Structural diversity is also directly represented in the analyses that are based on data from the national study of many institutions, as these institutions vary in the degree to which they attract and enroll a diverse student body.

As detailed below (as well as in Appendix C), not all of the elements shown in Figure 1 were available in each of the three sets of studies. Although the studies were designed to be as parallel as possible, differences in questions asked and in research design made identical analyses impossible. The most obvious example of this is the omission of the information on institutional characteristics -- especially structural diversity -- from the analyses of data on the single institution, the University of Michigan. This is obvious given that while institutional characteristics vary across institutions, they do not vary for a single institution except over time.

I examined classroom diversity in all studies. It was measured in the CIRP study by students' enrollment in ethnic studies courses in

Major Outcomes and Their Relationship to My Theoretical Arguments for the Impact of Diversity

Since I was able to conduct analyses to understand how diversity influences student learning and democracy outcomes at the national level, the institutional level (focusing on the Michigan context), and at the level of a classroom in which interaction with diverse peers was fully integrated with curricular content, I was able to take an increasingly close look at the impact of diversity. Together, these analyses are akin to macro- and

college. In the Michigan Student Study, it was measured by the extent to which students were exposed to and influenced by classes that dealt with issues of race, ethnicity, and interracial relationships.

I also examined informal interactional diversity in all three studies. In the CIRP and Michigan Student Study, the measures covered a broad range of ways in which informal interactions occur on campus. In both studies, distinctions were made between the diversity of a student's closest friendships and more general interracial interactions on campus. Within the latter, both studies also distinguished between the amount of interracial socializing and the extent to which these interactions involved discussions about racial issues and attempts to deal with those issues. In addition, the Michigan Student Study included questions on the quality of these campus interracial interactions, whether they were positively personal and honest, or negatively cautious, guarded and somewhat hostile.

The intensive study of the University of Michigan's Program on Intergroup Relations, Conflict, and Community provided the opportunity to examine the combined effect of classroom and informal interactional diversity. This Program integrates a classroom experience with explicit interaction with diverse peers, using dialogue groups that were built into the formal class on intergroup relations.

microscopic looks at how diversity works at various levels. Although the studies were not originally designed to have parallel measures, they did include similar concepts, which can be grouped into long-term learning and democracy outcomes.

The outcomes I examined conform to the learning and democracy consequences that I discussed above in my theoretical statement. I argued that a more diverse university environment

stimulates a more active engagement in the learning process and results in the development of less automatic and more complex thinking about issues and causality, as well as in the greater learning that comes from this engagement. The major categories of learning outcomes, therefore, refer to measures of:

- growth in active thinking processes that reflect a more complex, less automatic mode of thought (in the MSS and IRGCC studies),
- engagement and motivation (included in both the CIRP and MSS),
- learning of a broad range of intellectual and academic skills (in the CIRP study),
- and value placed on these skills in the post-college years (in the CIRP study).

With respect to democracy outcomes, I argued that students educated in diverse institutions are more motivated and better able to participate in an increasingly heterogeneous and complex society. I reasoned that to participate effectively, students have to (1) learn to understand and consider the multiple perspectives that are inherent in a diverse environment; (2) deal with the conflicts that different perspectives sometimes entail; and (3) appreciate the common values and integrative forces that incorporate these differences in the pursuit of the broader common good. The major categories of democracy outcomes refer to:

- citizenship engagement (in all three studies),
- racial/cultural engagement (CIRP and MSS),

- and compatibility of differences (in MSS and IRGCC).

"Citizenship engagement measures motivation to participate in activities that affect society and the political structure, as well as actual participation in community service in the five years after leaving college. It also includes a measure of understanding how others think about issues, what (as described earlier) is commonly called perspective-taking in cognitive psychology. "Racial/cultural engagement" measures cultural knowledge and awareness, and motivation to participate in activities that promote racial understanding. "Compatibility of differences" includes belief that basic values are common across racial and ethnic groups, understanding of the potential constructive aspects of group conflict, and belief that differences are not inevitably divisive to the social fabric of society.

In addition to these learning and democracy outcomes, the nine-year CIRP study has enabled me to study behaviors and perspectives, which I will call living and working in a diverse society. Attending a diverse college and participating in its educational and peer environments that utilized diversity should help break the pattern of perpetual segregation that so many social scientists have documented. To test this, I analyzed post-college interracial interaction patterns in friendships, neighborhoods, and work settings, and obtained graduates' views of how the college years had prepared them for graduate school and for jobs after college.

EMPIRICAL RESULTS FROM THE ANALYSES CONDUCTED FOR THIS LITIGATION

The Effect of Structural Diversity on Classroom and Informal Interactional Diversity

An important question to examine first is whether structural diversity -- the degree to which students of color are represented in the student body of a college -- shapes classroom diversity and opportunities to interact with diverse peers. It is through these diversity experiences that growth and development occur among college students. To test this hypothesis, I use data from the national CIRP data base.

As noted above, the CIRP data were collected from nearly two hundred colleges and universities. Since there is a wide variation in the percentage of the undergraduate population who were students of color at these institutions, I was able to examine the effects of structural diversity. As shown in Figure 1, given that structural diversity is an institutional characteristic (as opposed to one that describes individual students), the most important consideration is the degree to which structural diversity changes the educational dynamics on a campus. In order to examine the degree to which structural diversity helps create conditions that promote student outcomes through classroom diversity and interactional diversity, I examined the relationships between structural diversity and each of the measures of curricular and interactional diversity that were available in the CIRP national data.

Structural diversity had significant positive effects on classroom diversity and interactional diversity among all students. Attending a diverse college also resulted in more diverse friends, neighbors, and work associates nine years after college entry. This is strong evidence that structural diversity creates conditions that lead students to experience diversity in ways that would not occur in a more homogeneous student body.

This key finding is supported by evidence in Table 1 indicating that classroom diversity and informal interactional diversity would be significantly lower without a diverse student body. In addition, the fact that these relationships are significant creates the possibility that structural diversity will also affect student outcomes (not just experiences) in indirect ways (e.g., through classroom diversity and interactional diversity). These indirect effects can only occur if the measures of classroom diversity and/or interactional diversity are significantly related to the student outcome measures, which is the major focus of the results in the next sections.^{**/}

^{**/} In each of the analyses I used common standards for judging the statistical significance of findings. Statistical significance is an approach that is used to judge the reliability of relationships in order to reduce the possibility that observed findings are simply due to chance. For the analyses based on total or white student samples, I use a probability level of .05 (5%) as the criterion for judging a finding as significant. This indicates that there is less than 1 in 20 chance that any relationship of the magnitude reported is simply due to chance, and is indicated by the notation $p < .05$. Since probability levels are related to sample size, I used a slightly different criterion for the smaller samples of African American and Latino students, $p < .10$. In other words, while there is always a slight chance that any individual finding is illusionary, we can be relatively confident any significant finding truly exists and is important in a statistical sense.

Table 1

How the structural diversity of campuses helps create conditions and opportunities that promote learning and democracy outcomes

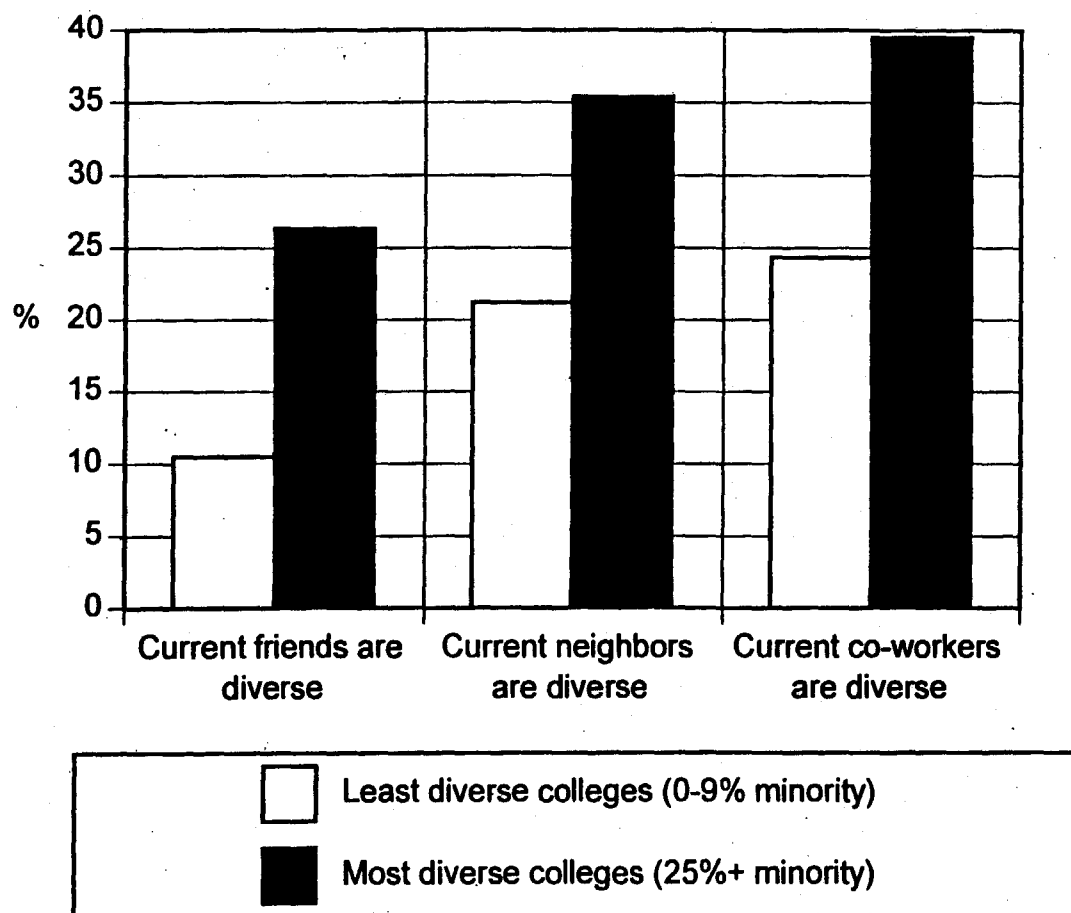
Effect of structural diversity on:	Is effect significant?	Direction of effect?
Enrolling in an ethnic studies course	Yes	Positive
Attending racial/cultural awareness workshop	Yes	Positive
Discussing racial/ethnic issues	Yes	Positive
Socializing across race	Yes	Positive
Having close friends in college from other racial backgrounds	Yes	Positive

Notes: Based on all CIRP respondents. Significance measured at $p < .05$. Structural diversity measured as percentage of undergraduates at student's freshman college who were students of color.

Structural diversity also had dramatic long-term effects on the likelihood that white students who had grown up in predominantly white neighborhoods would live and work in diverse settings after college. Figure 2 illustrates the effects of attending a college with a diverse student body. White students who attended colleges with 25 percent or more minority enrollment, as contrasted to white students who attended colleges with very low minority enrollment, were much more likely to have diverse friendships after leaving college and to live in diverse neighborhoods and work in settings where co-workers were diverse. These results are also confirmed in previous long-term studies that show college represents a critical opportunity to change intergroup interaction patterns and to disrupt the pattern of social, residential, and work-place segregation. Segregation tends to be perpetuated over stages of the life cycle and across institutional settings. (See Appendix B.) Majority and minority individuals whose childhood experiences take place

in schools and neighborhoods that are largely segregated are likely to lead their adult lives in largely segregated occupational and residential settings. College is a uniquely opportune time to disrupt this pattern. Moreover, we know that previously segregated minority students who attend structurally diverse colleges and universities are more likely to find themselves in desegregated employment and to work in white-collar and professional jobs in the private sector. Wells and Crain (1994) suggest that the networking students are able to do in structurally diverse schools is an important explanation for later employment in desegregated work settings. Thus, if institutions of higher education are able to bring together students from various ethnic and racial backgrounds at the critical time of late adolescence and early adulthood, they have the opportunity to disrupt an insidious cycle of lifetime segregation that threatens the fabric of our pluralistic democracy.

Figure 2: Structural diversity effects on interracial contact patterns after college among white students raised in predominantly white neighborhoods (CIRP study)



Notes: Diversity of friends, neighbors, and co-workers defined as half or more being non-white. "Current" responses refer to 1994, the time of the second follow-up survey.

The institutional study of the University of Michigan (MSS) also shows important positive qualities of interaction with diverse peers afforded by Michigan's degree of structural diversity (approximately 25 percent minority enrollment). In the public discourse and controversy over the increasing diversity on our college campuses, critics claiming that diversity has had unfortunate consequences on college campuses have pointed to the supposedly negative nature of interracial interaction on diverse campuses. As I detail in Appendix E, the data from the Michigan Student Study clearly disprove this contention. While there is considerable selection of same-race peer groups among white and African American students at the University of Michigan, this pattern reflects the

segregation of their pre-college high schools and neighborhoods, not a reaction to their university experience with diversity. White students, particularly, come from segregated backgrounds, but the amount of their contact with students of color increases at Michigan. Moreover, the quality of these interactions is predominantly positive, involving the sharing of academic, social, and personal experiences -- the type of cooperative and personal relationships that I have argued promote learning and such democracy outcomes as interracial understanding, and perspective-taking. In general, this also happens for students of color at Michigan, as detailed in Appendix E.

The Effect of Diversity Experiences on Learning Outcomes

The results show strong evidence for the impact of diversity on learning outcomes. Students who had experienced the most diversity in classroom settings and in informal interactions with peers showed the greatest engagement in active thinking processes, growth in intellectual engagement and motivation, and growth in intellectual and academic skills. (See Tables C1,2; M1,2; I1.)

This general conclusion is supported by five major points that can be drawn from the analyses conducted for this litigation.

1. The analyses show a striking pattern of consistent, positive relationships between student learning in college and both classroom diversity and informal interactional diversity. These results are consistent across several dimensions:

- racially/ethnically different student populations (African American, white, and Latino Students);
- multiple learning outcome measures designed to capture students' active thinking processes, intellectual skills and

abilities, and motivations for educational progress;

- three different studies of the college experience (CIRP, MSS, and IRGCCP); and
- time periods spanning college attendance for four years and sustained effects five years after college.

2. The results are especially impressive for white students. (See Tables C1, M1, I1.^{***}) Virtually all of the relationships between classroom diversity and learning outcomes, and between informal interactional diversity and learning outcomes, in the CIRP and IRGCC studies were positive and significant. Almost half of the relationships in the MSS were also positive and significant, and none was negative. White students

^{***} White students composed 85 percent of the students in the IRGCC study, and thus the findings from this study are included when I discuss white students. The total number of students in the study is so small to analyze data separately for white students and students of color.

with the most experience with diversity during college demonstrated:

- the greatest growth in active thinking processes as indicated by increased scores on the measures of complex thinking and social/historical thinking (confirmed in the MSS and IRGCC studies);
- growth in motivation in terms of drive to achieve, intellectual self-confidence, goals for creating original works (confirmed in the CIRP study);
- the highest post-graduate degree aspirations (confirmed in both CIRP & MSS studies);
- and the greatest growth in students' values placed on their intellectual and academic skills (confirmed in the CIRP study).

3. The results for white students' learning outcomes in the national study persisted across time (see Table C1). Five years into the post-college world, white graduates who had experienced the greatest classroom diversity and informal interactional diversity during college still demonstrated the strongest academic motivation and the greatest growth in learning (confirmed in the CIRP study). They also placed greater value than other white graduates on intellectual and academic skills as part of their post-college lives (confirmed in the CIRP study).

4. The results from the Michigan Student Study show that it is the quality of cross-racial interaction that affects white students' growth in active thinking and their graduate school intentions (see Table M1). Since few other studies in higher education have attempted to measure the positive and negative quality of interaction with diverse peers, these results are quite important. They support the amply documented conclusion from social contact studies that the quality of intergroup contact influences the hearts and minds of individuals.

5. The results also show a positive impact of diversity on African American and Latino students in the national study and on African American students in the Michigan Student Study (see Tables C2 and M2).^{****} Fewer effects were significant for African American and Latino students, likely because of the much smaller sample size of these student groups. A few differences for African American students are worth noting:

- Interaction with diverse peers was more consistently influential than classroom diversity for the learning outcomes of African American students (CIRP and MSS). This indicates the importance of peer interaction but also probably reflects the fact that for African American students, classroom content on issues of race and ethnicity provides a less novel perspective. They have grown up in communities and in a society where the pervasiveness of issues related to race has given them non-academic knowledge of these issues.
- There was also evidence that having close friends of the same race was related positively to two learning outcomes for African American students. Those African American students whose close friends were also African American felt that education at Michigan had been more intellectually engaging. African American students in the national study who had close friends of the same race were more likely than other African American students to value general knowledge in their early post-college years (see Table C2).
- Together these findings on the learning outcomes of African American students reveal the influential role of interaction with diverse peers and the particular role of

^{****} The MSS analyses do not include Latino/a students because their numbers at the University of Michigan are not large enough to permit reliable results in the regression analyses.

interaction with peers of the same race, indicating that peer interaction must be considered in more complex ways for African American students. These findings suggest the supportive function of group identity for African American students, and the potentially positive effects of having sufficient numbers of same-race peers, as well as opportunities for interracial interactions on diverse campuses.

- Finally, the results from the CIRP study show that cumulative grade point average related differently to classroom diversity for African American and Latino students

(see Table C2). African American students who had taken the most diversity courses earned somewhat lower grades, while Latino students who had taken the most diversity courses earned higher grades. Since for white students there was only one relationship between grade point average and diversity relationships (higher grade point average for white students who discussed racial issues), we conclude that these different results for African-American, Latino, and white students come from the ambiguity in the meaning of grades in various disciplines and schools. That ambiguity is so great that it is difficult to find consistent relationships between grades and student experiences.